

## Two new species of the genus *Cosmopterix* Hübner (Lepidoptera, Cosmopterigidae) from Japan and neighboring countries

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**Abstract** Two new species, *Cosmopterix flavidella* sp. nov. and *C. margaritae* sp. nov., are described from Japan and neighboring countries, and the *coryphaea* and *catharacma* species-groups are newly proposed including them respectively.

**Key words** Cosmopterigidae, *Cosmopterix*, *coryphaea* species-group, *catharacma* species-group, host plant, *Saccharum*, *Digitalia*, *Paspalum*.

Twenty species belonging to the genus *Cosmopterix* have hitherto been known from Japan (Kuroko, 2008). The Japanese fauna of the genus amounts to 22 species by this paper.

All material treated in this paper is preserved in the collection of the Entomological Laboratory, Osaka Prefecture University, Sakai, unless otherwise stated.

Abbreviations. BMNH: The Natural History Museum, London, ZIAS: The Zoological Institute, Academia Sinica, Beijing. HK: Hiroshi Kuroko.

### The *coryphaea* species-group

This new species-group contains the following species: *C. coryphaea* Walsingham, 1908, from the Canary Is. and *C. flavidella* sp. nov. This group is characterized by the length of the subdorsal line of the forewing and the stout valva of the male genitalia.

### *Cosmopterix flavidella* sp. nov. (Fig. 1)

♂ ♀. wing length 4.0–6.0 mm (average expanse 11.6 mm). Head olive-fuscos, with fine white lines in centre and above each eye; face silvery-white; antenna fuscous, apical 3 white, 4 dark, 1 white, 1 or 0.5 dark, 1 or 0.5 white. Thorax olive-fuscos, with fine central and tergal lines; hind tarsus mostly whitish. Abdomen yellowish-olive above, terminal edge of each segment whitish-silvery, whitish-silvery beneath; anal tuft of male silvery-white.

Forewing moderately narrow, width index= 0.12; olive-fuscos; subbasal lines rather broad, subcostal line from base to 1/2–3/5 of basal half part; median line from base to just before anterior fascia, subdorsal line from 2/3 of basal half to near anterior fascia obliquely; anterior fascia

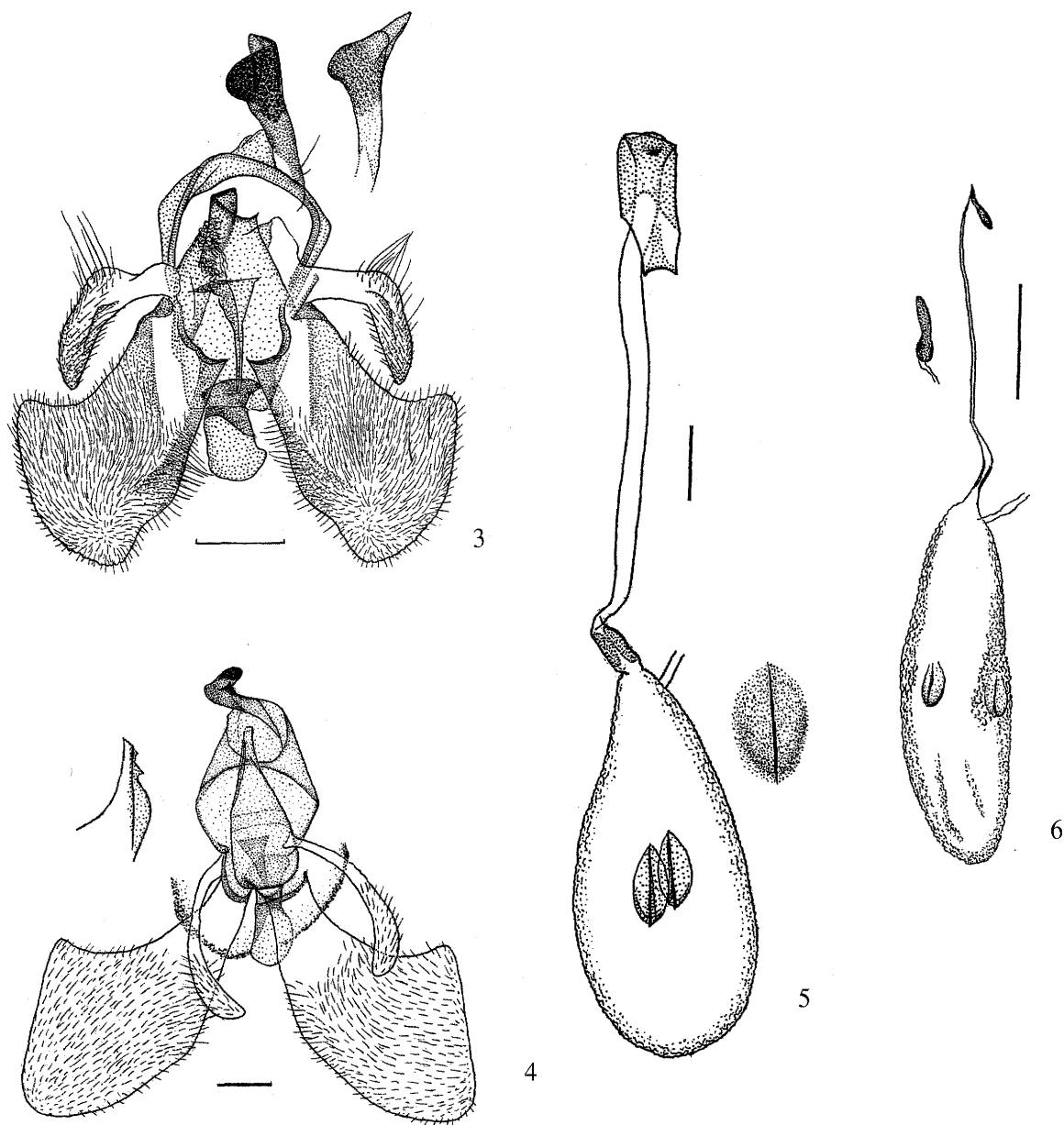
divided into two spots by small pale yellow projection, a big black dot on posterior margin of upper spot; antero-costal line extending basally to 1/2 of basal half; postmedian band pale yellow, edged by posterior metallic fascia, constricted at middle; broad pale yellow elliptical patch beyond posterior fascia, reaching dorsal margin; rather broad silvery-white terminal line from the tip of elliptical patch to apex; costal cilia on apical half pale fuscous, cilia on upper posterior spot white toward apex; dorsal cilia whitish-gray. Hindwing pale gray; cilia white tinged with gray.

Male genitalia (Fig. 3): Right arm of uncus broadened apically, with bill-shaped projection on apex, left arm short triangular; anellus lobe curving gently or bending in L-shape, broadened on apical half, with blunt apex; valva stout with broad basal half, tip of ventral edge protruded and angulated, outer edge gently curved; aedeagus bottle-shaped, with broad opening (100 µm in width).

Female genitalia (Fig. 5): Lamella antevaginalis rectangular, with broad handle, truncated at tip, the edge weakly depressed; signa elliptical, lamellate, with a central ridge, 130–150 µm in length. The posterior margin of 7th sternum widely protruded in semicircle.

Material examined. Holotype. ♂, Uehara, Iriomote Is., Okinawa Pref., 16. x. 1989 (H. K.), from *Saccharum kanashiroi*, slide HK slide no. 944. Paratypes. HONSHU. 1 ♂, Kyoto, 7. vi. 1951 (K. Takeuchi), slide HK no. 1945; 1 ♀, Yokohama, Kanagawa Pref., 23. vi. 1949 (H. Inoue); 1 ♂, Daisen, Tottori Pref., 14. vii. 1950 (S. Issiki), slide HK no. 81; 1 ♂, Mt. Kakuda, Niigata Pref., 1. vii. 1975 (R. Sato), slide HK no. 124; 1 ♂, Tsugaike-daira, Kitaazumi-gun, Nagano Pref., 19. vii. 1979 (A. Nakayama); 1 ♂,

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Figs 1, 3 & 5. *Cosmopterix flavidella* sp. nov. 1. Right wings. 3. Male genitalia. 5. Female genitalia.

Figs 2, 4 & 6. *C. margaritae* sp. nov. 2. Right wings. 4. Male genitalia. 6. Female genitalia.

Scale bars: 0.2 mm.

Shirayama-cho, Ishi-gun, Mie Pref., 17. viii. 1991 (T. Mano), slide HK no. 1115; 1 ♂, Shomi-cho, Toyoda-shi, Aichi Pref., 31. v. 1992 (T. Mano), slide HK no. 1110; 1 ♂, Asahi-cho, Sakakino, Aichi Pref., 20. vi. 1998 (T. Mano), HK slide no. 2243; 1 ♂, Tottori, Hannan-shi, Osaka Pref., 18. viii. 1998 (S. Koshino), slide HK no. 1100; 1 ♂, Shinsui Park, Nishiki, Kisei-cho, 24. vi. 2000 (T. Mano), slide HK no. 2249. KYUSHU. 1 ♂, Shirahama, Iriomote Is., Okinawa Pref., 7. iv. 1962 (Y. Arita), HK no. 1323; 1 ♀, Mt. Ina, Okinawa Is., Okinawa Pref., 27. iii. 1980 (K. Yasuda), HK no. 1201; 1 ♂, Urauchi, Iriomote Is., Okinawa Pref., 29. iii. 1980 (K. Yasuda); 1 ♂, ibidem, 26. iii. 2002 (T. Hirowatari et al.). TAIWAN. 1 ♀, Kiirun, 11. v. 1935 (S. Issiki), slide HK no. 1377. CHINA. 1 ♀, Dayu, Jiangxi, 2. viii. 1976, ZIAS; 1 ♂, Jiulianshan, Jiangxi, 21. v. 1977, ZIAS; 1 ♂, Sanqingshan, Jiangxi, 15. viii. 1985 (G. Shen), ZIAS.

**Etymology.** Flavus (L.) = golden yellow, yellow. The species is named after the yellowish postmedian band.

**Remarks.** The new species is similar to *C. coryphaea* Walsingham, 1908, in superficial characters, except absence of a small black dot on the anterior lower spot of the forewing, but it is distinguishable by the shape of the right arm of the uncus in the male genitalia and the lamella antevaginalis in the female genitalia. *C. flavidella* is also quite similar to *C. hamifera* Meyrick, 1909, from Sri Lanka, in the marking of the forewing, but it differs from the former in having T-shaped right arm of uncus and slender valva.

**Distribution.** Japan (Honshu, Kyushu); Taiwan, China (Jiangxi).

**Biological notes.**

**Host plant:** Poaceae. *Saccharum kanashiroi* (Ohwi) (Japanese name: Murasaki-obana).

Adults appear in April, March and October in Okinawa; in May, June, July to August in Honshu.

### The *catharacma* species-group

This new species-group contains the following species: *C. catharacma* Meyrick, 1909, from Sri Lanka, *C. asiatica* Stainton, 1859, from India, *C. aurella* Bradley, 1957, from Rennel Island, *C. cuprea* Lower, 1916, from Queensland and *C. margaritae* sp. nov.

This group is characterized by the caudal projection of forewing expanding between the upper and lower metallic posterior spots to dorsal margin of forewing, together with similarity of the characters of right arm of uncus, valva and aedeagus.

### *Cosmopterix margaritae* sp. nov. (Fig. 2)

♂ ♀. wing length 3.6–4.0 mm (average expanse 8.0 mm) Haed and thorax bronzy-black, with three white lines, central line very fine.

Forewing moderately narrow, width index = 0.12, subbasal lines short but distinct, subcostal line not reaching base, median and subdorsal lines 1/9–1/8 length of basal half area; metallic anterior fascia vertical, without black dot; postmedian band reddish-yellow; metallic posterior lower spot located anteriorly, caudal projection expanding widely between posterior upper and lower spots and reaching dorsum; terminal line short, located between posterior spot and apex; apical spot white.

**Male genitalia** (Fig. 4): Right arm of uncus rather weak, acutely angled at apex; anellus lobe weak, gently curved, slightly broadened on apical half; valva longer than aedeagus, base narrow and ventral edge angulated with outer edge acutely, outer edge straight; aedeagus bottle-shaped, with two small teeth on the ventral edge, neck slender, opening 20 µm in width.

**Female genitalia** (Fig. 6): Lamella antevaginalis short and slender, 90 µm in length; ductus bursae slender; corpus bursae narrow elliptical, as long as ductus bursae, goose-skinned, signa elliptical lamella, with central ridge, 90 µm in length. Posterior margin of 7th sternum more or less emarginated.

**Material examined.** Holotype. ♂, Shirahama, Iriomote Is., Okinawa, 14. xi. 2000 (T. Saito & F. Komai), from *Digitalia adscendens* (21. x. 2000), slide HK no. 1190. Paratypes. 1 ♂, 6 ♀, same as holotype, 10–19. xi. 2000, from *D. adscendens* (21. x. 2000), slide HK nos 1361, 1372 ♀.

Taiwan. 1 ♂, 1 ♀, Chihpen, Taitung-Hsien, 12 & 15. vii. 1974 (H. K.), from *Paspalum conjugatum* (29. vi. '74), slide HK no. 153 ♂, 638 ♀; 1 ♀, Chiai, Chuchi, 10. vii. 1975 (H. K.), slide HK no. 636.

**Etymology.** Margarita (L.) = pearl. The species is named after the pearly metallic ornamentation of the forewing.

**Remarks.** The new species is very similar to *C. catharacma* Meyrick, 1909 and *aurella* Bradley, 1957, in superficial character, but can be distinguished easily. The shape of the right arm of the uncus and the two teeth on the ventral edge of aedeagus are good specific characters of this new species.

**Distribution.** Japan (Kyushu: Okinawa); Taiwan.

**Biological notes.**

**Host plant:** Poaceae. *Digitalia adscendens* (H. B. K.) Henr.

(Japanese name: Mehishiba); *Paspalum conjugatum* Bergius (in Taiwan).

Adults have been collected in July and November.

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### Reference

Kuroko, H. 2008. Little gem – members of the genus *Cosmopterix* of Japan. *Kita-kyushu no konchu*, **51** (1): 3–16, 1 pl. (In Japanese)

### 摘 要

日本および近隣国に分布する *Cosmopterix* 属の2新種 (鱗翅目, カザリバガ科) (黒子 浩)

日本と近隣国に分布し, 南の要素をもつ2新種, *Cosmopterix favidella* sp. nov. (ウスキカザリバ), *C. margarita* sp. nov. (シンジュカザリバ) を記載した。これでわが国から *Cosmopterix* 属は22種記録されたことになる。前者の食草は西表島でムラサキオバナ, 後者も同じく西表島でメヒシバより得られたもので, *coryphaea* 種群, *catharacma* 種群を新設し, それぞれに属さしめた。

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